

AMERICAN VETERINARY REVIEW,

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EDITORIAL.

RE-OPENING OF OUR VETERINARY SCHOOLS.—After vacation the good work begins again—the veterinary practitioner of twenty-five years ago—the veterinary surgeon of to-day—the work of veterinary colleges—their duties in the past—their obligations in the future—the need of strictly *veterinary* education—the motto “constant improvement.” IOWA STATE VETERINARY ASSOCIATION.—The second annual meeting—prospects of a good gathering—papers of interest to be presented. A NEW VETERINARY SCHOOL.—The Maryland University adds a veterinary department—The veterinarians connected with it—DEATH OF DR. E. F. THAYER. ARMY VETERINARIANS.—The efforts of the REVIEW in their behalf—The penal recompense for our labors—another letter on the need of reform—The United States Veterinary Medical Association and its committee—is the chairman so guilty after all—the duties that are imposed upon the Association and on veterinarians—bill to be proposed—its discussion in the REVIEW asked for.

RE-OPENING OF OUR VETERINARY SCHOOLS.—The month of October will soon resume its place upon the calendar, and the return from rural sequestration to their chairs in our medical schools of the members of the various faculties, and the influx of the crowds (?) of actual and expectant matriculants to their benches and class-rooms, will once more remind us of the labor and achievement which are to fill out the winter months, and recruit and strengthen the great veterinary army of the future. Twenty-five years ago, in the United States, the title of veterinarian surgeon was almost completely ignored, and the notion that any necessary special training, or even an ordinarily good school education were indispensable prerequisites for a successful veterinary practice had not been evolved, much less developed. But to-day the veterinary school is

one of the acknowledged and established institutions of the land, and hundreds of intelligent and ambitious young men are choosing a career in the ranks of a scientific fraternity, and the pursuit of a calling which within the term of a generation would have brought them no nobler designation than that of "horse doctor" or, as a somewhat genteeler cognomen, "farrier."

Yet some of our existing schools may already claim a comparatively extended existence, and in fact can number among their teachers men who have grown old in their honorable work. It has been with them a labor of professional love, and it must be with a feeling of profound satisfaction that they are now able to contemplate the fruits of their efforts as they have become manifest at the present time.

But there is something which cannot be overlooked—a consideration of the first importance, which it would be an almost fatal error to ignore, and which should receive to-day the practical attention to which it is entitled, and which it will finally command. It is involved in the important question whether existing schools have enlarged their teaching facilities and means proportionately to the advancing development of the science? There has been an annual increase in their number—more are coming into being and others will from time to time spring up and parade their announcements and promises, but is this the only kind of increase which the profession and the public, and the true interests of science, have a right to expect? Some among our thinking friends have fears in this direction, and have premonitions of danger and trouble ahead: they think that not merely more schools are needed, but more and better, as well as the improvement of the old. The veterinary education of twenty-five years ago will not meet the requirements of the veterinarian student of the present time. Amalgamated faculties are scarcely any longer justifiable. *Veterinary*, and strictly *veterinary* teachings are indispensable, and it must be the chief effort of *veterinary* schools to acquire the power of conferring, in the degree of *veterinary* surgeons, a certification that its holder is "every inch a (veterinarian) king," and no usurping preten-

der, practising under a pseudo warrant, the principal function of which is to secure the concealment of the ignorance and charlatanry of the holder—a possible danger which every means should be employed to prevent.

Newly created faculties of freshly incorporated veterinary colleges must not be estimated merely by their power to influence the accession of large classes of students.

The value of the faculty must be estimated in reference to their ability to impart a sound theoretical and practical education, from a curriculum whose motto shall be "*constant improvement.*"

It should be our grand aim to so train and qualify our students that they may be known as lacking nothing within the broad boundaries of the science which they cultivate and apply, and as being fully capable of overtopping and surpassing, beyond successful competition, the pretentious quack, even when armed with the deceptive and technical parchment which incompetent or designing legislators may sometimes be induced to authorize.

IOWA STATE VETERINARY ASSOCIATION.—We gave notice in our last issue of the second annual meeting of this society, appointed for the 3d and 4th of September. From subsequent particulars and intimations, we feel authorized to promise that the meeting will prove to be an occasion of unusual interest, which will well repay the time and attention which may be devoted to attending the various sessions.

We hope to be favored by the Secretary with a good report of the meeting, and that the various speakers will accept our invitation to the hospitality of the pages of the REVIEW. The publication of the papers will no doubt be interesting to the profession at large. Tait Butler of Davenport is Secretary.

The following is the appointed order of business:

On Tuesday evening, President's address, by President S. Stewart, of Council Bluffs; "Sulphate of Eserine—Its Medicinal Uses in Veterinary Practice," by R. P. Steddom of Oskaloosa; "Diseases of the Heart," by J. Miller of Ottumwa; "Surgery in General, Castration in Particular," by Tait Butler of Davenport; general informal discussion of practical veterinary subjects. On Wednesday evening: "Clinical Observations," by A. B. Morse of Des Moines; "Bone Spavin," by C. A. Cary, Professor of Veterinary Science, South Dakota

Agricultural College; a paper by J. A. Campbell of Des Moines; general discussion; banquet.

A NEW VETERINARY SCHOOL.—Maryland joins her sister States of New York, Pennsylvania, Massachusetts, Illinois, and others, in the veterinarian procession, and her university now includes a school of Veterinary Science. The first announcement has been issued, and the first course of lectures will open on the first day of October. Our friend, Dr. W. H. Wray, is the Dean, and Professor Robert Ward, F.R.C.V.S., President of the Faculty. Our best wishes are tendered to the new school. It has a powerful name at its back to help the enterprise along, but a powerful rival close at her heels in Philadelphia, in old Jefferson.

ARMY VETERINARIANS.—The zeal with which the REVIEW has advocated the interests of our brethren who hold government appointments in the army, and the efforts we have made from time to time to assist them in securing the full measure of their rights and privileges in "the service," among those who are simply their legal equals in station, are facts too well known to the readers of our magazine to call for recapitulation.

We have always claimed for the veterinarians in the army of the United States a recognition worthy of their education and of their calling, as officially appointed scientists, and in fact have even done so at times in terms sufficiently emphatic to incur the resentment of certain official individuals, to a degree so intense that only the old time vengeful challenge to "stop my paper" could satisfy it. But we are conscious that we are laboring in a good cause, and although we may have been thus made to suffer for our faithfulness to our friends, we nevertheless intend to persevere in our advocacy of the just and the right, until we have effected a change, and one which shall not fail to effect a reform of present abuses.

A letter which we print in the present number, from the pen of one of our ablest correspondents, once again makes a representation of the evil of the present army veterinary organization, and urges the profession to bring their combined forces to bear upon the subject, in a new attack upon the existing wrong.

The United States Veterinary Medical Association is specially called upon, and the remarks of the author touching the course of the committee appointed by the association, meet with our full endorsement; although the chairman of that committee may still not be altogether the culpable party. He is not precisely neglectful of his official duties, nor is he wanting in professional interest, but we know that he is burdened with numerous occupations, involving many onerous duties. And it may be further urged in his behalf, that he has made repeated requests to be relieved from his position as a member of that committee, for the very reason of his inability to give his attention more seriously to the work, and to perform the journeys and solicitations which are involved in its action.

The veterinarians of the United States should set to work immediately and concertedly. The paper which we publish suggests among many other points, the arguments that the government is already informed of our needs; officers in the army and officers in the War Department are prepared to listen to our pleadings with a favorable disposition, and there is a better promise of success than has hitherto existed, in an effort to remove an evil which never should have been permitted to take root.

DR. E. F. THAYER.—The news of the decease of Dr. E. F. Thayer of Newton, Mass., reached us, last month, as we were mailing our August issue, and too late for us to give the sad information to our readers, and at too short notice to permit us to honor our old friend with our last duties. Dr. Thayer expired on the 29th of July, after an illness of three weeks, at the age of 78. He had been engaged in the practice of veterinary medicine for many years, but was compelled to abandon the field a few years ago, leaving in the record of his professional life a name which will forever do honor to the cause of veterinary sanitary science, and furnish evidence of the value of the public services which it is in the power of an accomplished veterinarian to render. He was the first and the only veterinarian who knew how to recognize the presence of contagious pleuro-pneumonia in Massachusetts, and it is to

him as a veterinarian that that State may credit its exemption from the presence of that plague.

If this had been the only professional services rendered by Dr. E. F. Thayer to his countrymen, it would be enough to entitle his name to the gratitude of posterity in connection with the history of veterinary medicine in the United States, without enumerating his other claims to a place among the distinguished and useful men of the country. Our sincere condolence and the assurance of our cordial sympathies are tendered to the bereaved family and friends.

ORIGINAL ARTICLES.

GENERAL LYMPHANGITIS.

An article read before the California State Veterinary Medical Association, December 13, 1888, By DR. J. P. KLENCH, V.S.

In former times, glanders and farcy have been considered by the most prominent lights in veterinary science as of a tuberculous nature, and the miliary deposits in the lungs were admitted to be entirely similar to those of tuberculosis. The microscopists made great efforts to discover some marked difference between the two diseases in the intimate nature of the abscess, its formation and its contents, although well knowing the great difference of the symptoms in both affections. All admitted, however, and the same opinion is prevailing still at the present time, that the specific product of glanders is a small nodule, of the size of a lent, composed of round cells and connective tissues; these noduli degenerate and form cavities or ulcers according to their location. Prof. H. Bouley had such confidence in the metastatic character of those tuberculous deposits in glanders that, whenever called upon to examine a suspicious horse, that showed only a bad nasal discharge and adherent gland, without any visible ulcer, he invariably condemned such horse as affected with the confirmed glanders, when he found one or two miliary tubercles on the membrane under the nasal wing; that, said he, is an evident proof of the existence of miliary tubercles in the lungs.

But since that time veterinary science has made great progress. Bacteriology was unknown in our medicine, and in its infancy in human pathology, and no bacillus was ever thought of being the true element and constitutional principle, the living animal, of the glanders. It is to-day admitted by all authorities that the glanders cannot exist without the presence of this bacillus, which is found only in the glandered deposits like abscesses and ulcers. It is also conceded and proved by inoculation that the bacillus is the only possible element of contagion.

Let us look now for the favorable conditions for the development of the glandered bacillus. It has been proved by statistics that the glanders and farcy acquire an extreme degree of extension in moderate climates, and that extreme cold and very hot weather destroy the vitality in the bacillus. Hence it is possible that the fluids within or without infected stables may provide suitable media for the bacteria to retain their vitality outside of the animal organism. According to Krabbe, there occurred in 10,000 horses in Norway, from 1857 to 1873, six cases of glanders yearly; in Denmark, 85; in Great Britain, 14; in Sweden, 57; in Prussia, 78; in Belgium, 138; in the French Army, 1,130; in the Algerian Army, 1,848, which show that glanders increases in frequency as we go from a northern to a southern climate. (AM. VET. REVIEW, June, 1887). Now, as the climate of California is similar to that of Southern France and Algeria, and as the manner in which the police laws are executed here in California is less strict than in the European countries, we can affirm that the glandered virus finds a suitable place in our State to retain its complete vitality wherever it is produced, like barn floors, barn yards, manure, straw stacks, pools of putrid water and even pastures, and no rough winter will ever come to destroy the same. The glanders and farcy have been reported as causing very great ravages amongst the equine species in almost every county in California, and *thousands* of horses and mules have been destroyed as victims of this contagious disease within a few years. When I consider the great resisting vitality of the glandered bacillus, I am led to believe

that it is impossible for this State to get rid of this contagious element within the next few years, especially as there is no authority existing in this State that has the legal power to enforce proper and complete disinfection of the infected premises, besides burning the body of the diseased animal.

From the above description of the differential symptoms, I form the following conclusions as to the possible glanders:

1. That the mule disease in California is, originally, not the chronic farcy, on account of the complete absence of induration in all the pathological formations—*no hard, adherent gland, no indurated nasal ulcer, no chronic glanders, no hard, indurated cords and ulcers on the skin, no chronic farcy.*

2. That although there exists a very great analogy of symptoms, it cannot be either the acute glanders or farcy, because the mules resist this affection many months, and the horses even longer, while the confirmed acute glanders causes death in about six days without fail. When farcy causes death, the post mortem examination will always show the lesions of acute glanders in the nasal cavity and lungs, as also of suppurative arthritis. On the contrary, I have never discovered any lesion of metastatic or inflammatory origin in the lungs nor in any other viscera of the several mules I have examined after death.

On the other hand, it is an admitted fact that the acute glanders and farcy select in preference animals of a sanguine constitution, and especially the jackass and mule, stallions and well bred horses, which are naturally more excitable than the phlegmatic, cold blooded horse. It has been repeatedly proved that chronic farcy inoculated from a horse to a jackass, never developed the chronic glanders, but always the acute form, and caused death in a few days. Now the mule has evidently inherited a portion of this natural aptitude to contract the acute form in all internal diseases; and, indeed, mules suffering from a chronic internal affection are very, very scarce. It is well known that thousands of mules were affected in this State and lived for several months, some of them even keeping up a good condition for a long time, so that this circum-

stance must discard all idea that the violent poison of acute glanders and farcy exists in this affection.

I will now consider the question of contagion which undoubtedly highly characterizes glanders and farcy. The main objections I find against the supposed contagion are: 1st, the fact that many animals are attacked in a very short time on the same premises, and at different places of the same county. 2d, the outbreak of the disease over the whole body in a violent manner (which is only possible in the acute glanders), seems opposed to the idea that the multiplication of the bacillus requires time and slow progress, as is the case in chronic farcy (which disease is not indicated by the existing symptoms). 3d, That no evidence is known of the existence of a real, living poison. 4th, That the cessation of the disease at every place after the affected animals were destroyed, and when no measures of disinfection were taken, proves that the disease was located in the individual organism. 5th, That no reliable evidence of direct contagion has been reported, but rather the proofs of non-contagion. 6th, The fact that, in the majority of cases, this disease is spontaneously developed without any known cause, while the glanders are considered to be the product of contagion.

If this disease is not the glanders, what then is its real nature? It is very easy to ask this question, but rather difficult to give it a decisive answer. I acknowledge that on examination of the first few cases, I was impressed by the great similiarity of symptoms between this affection and the acute glanders and farcy, but careful examination and repeated observations before and after death created in my mind a doubt as to the real character, which doubt I cannot expel until I am convinced of an adverse opinion by several evident proofs of contagion, and the existence of a glandered bacillus. The idea of chronic farcy and glanders must be rejected, unless we admit the theory that the peculiar climate of California is not adapted to favor the process of induration in the glands and other tissues, or to effect metastatic deposits in the internal organs. This idea, it appears to me, is, however, not admissible, because it is sufficiently demonstrated that tubercu-

losis is as common amongst cattle and hogs here as in other States, and that consumption amongst people is as frequently originated in California as elsewhere. Besides, no difference has been noticed for this climate, either in the symptoms or in the metastatic deposits.

I can affirm most positively to have seen and condemned for having the glanders, several horses with all the capital symptoms of the chronic type, having an indurated gland and miliary tubercles. It is also very important to mention the peculiar circumstance, that this disease was never found to break out on those ranches where only horses are raised and kept, especially when these horses were of good breed; while it attacked in every case such farms where we find working-horses and mules together, or mules only. I have yet to learn of a well bred horse falling a victim to this affection.

To resume, if we conclude to admit this to be the acute glanders and farcy, (or the sub-acute type), we must accept that the glandered poison has lost its intensity and that its effects remain external and never form any metastatic deposits; that there is no contagion, but only infection; and finally, that the disease is spontaneously developed and not the products of contagion.

Ergo. The old theories, advocated by the greatest veterinary authorities of all nations, about the nature of glanders, are declared false and without foundation—for California.

I am convinced that the affection is located in the lymphatic system, and consists either in a certain modification of the lymphatic fluid or in an inflammation of the vessels. I always had, and still have to-day, a great doubt as to the inflammatory character of this disease, for I never could notice any great modification in the anatomical structure of the ganglion and vessels, that would be proportioned to the vast extension of the disease over the whole body and for a long time.

I do not believe in the presence of any microbic element in the nourishing fluids, nor in any modification in the chemical or physical elements of the blood, nor in any disturbance in the physiological functions of any organ or system of organs as connected with the primitive origin of this disease, until reliable proofs appear to advance a different opinion.

I must not forget, before closing the diagnosis, to mention the circumstance that frequently local lymphangitis affects the intramaxillary and inguinal ganglion, and that the first one very often terminates into chronic glanders, if proper care is not taken to effect a speedy cure. The lymphangitis of a posterior leg is always of a more inflammatory type; generally it terminates well and remains of a benign character. It also happens very often that accidental wounds or wounds consequent to an operation, are followed by ulcerous lymphangitis on their peripheries; that constitutes local farcy; it is easily cured, but if neglected, is liable to poison the whole system, and degenerate into general farcy.

In support of my considerations about this lymphatic disease, I will relate several cases of my personal experience:

A heavy truck horse of Geo. Blake & Co., Stockton, working every day up to the evening of October 4, 1884, (having been losing flesh for two weeks before) when I found him in great distress, having difficulty to move the hind legs, especially the left one; noticed a hard lump on both crural regions and under the abdomen; various cardeous swellings on tibial region of left leg, covering the external surface only. All these tumors are painful on pressure; complete absence of any tumefied ganglion; visible membranes normal. More lumps appear every day, some very close to one another, on front legs and inside of hind legs; the members of left side are literally covered with buttons, while the right legs have only a few. I counted at the end of the first week about one hundred abscesses; those abscesses that were opened at first are cicatrizing quick, in about two weeks. Horse is moving easier as the abscesses are opened. Fluid evacuated is half coagulated, of an opaque color. The crural muscles are decaying away. Never the least tumefaction of lymphatic glands, nor any nasal discharge. Treatment tonic, stimulant and alteratives; horse has a good appetite. The two legs on the left side that were at first covered with abscesses and swollen, became very clean and sound in about five to six weeks, while the two right limbs affected later a similar change. But cold, rainy weather set in, and the patient falls

into a complete marasmus; died January 28, 1885, after an illness of about four months. Eight days before death came on, I noticed a piece of the skin, of the size of a man's hand, fall off, as by dry gangrene, inside the fetlock of left fore-leg. On post mortem examination I found all viscera sound and clean; only yellow serous infiltration under the skin in those places where swellings existed before death. All organs pale, very little blood in the body. This was certainly not the farcy; the horse was always kept on the same premises, no measures of prevention or disinfection were taken, and never any case of glanders and farcy appeared on any of the other five horses.

In January, 1886, I found at the ranch of John Ellis Lathrop, three mules affected with this mule-lymphangitis, and one horse suffering from chronic nasal gleet. One mule, bleeding from the nose, was taken out of a plow-team of eight mules, with the harnesses on. These four animals were running loose in the corral with forty-eight other mules, feeding in the same manger, and drinking in the same troughs; found blood and mucous discharges on the wagons and fences of the corral: in the three watering troughs I noticed discharged matter floating on the surface and some that went down to the bottom. These four animals were taken to another place and killed three or four weeks later. On opening one of them, I found the lungs perfectly sound, and the nasal membrane all rotten. Never had this farmer, to my knowledge, another animal affected with this disease before or after this time. I will mention that if these animals had been glandered, it would be a surprising wonder that the loss at this ranch was so small and the contagious virus so weak and powerless.

John Wagener, of Atlanta, who had lost twelve mules in 1883-1884, called on me to examine his stock. I found one mule seriously affected, and a buggy-horse which he used to drive daily to Stockton until he was refused admission in all the stables, because he had an old chronic nasal catarrh; these two were condemned as incurable and shot. But in the field I found another horse, working in a team of eight horses,

showing sores on both nostrils, some of which sores were cicatrized; the discharge was mildly abundant, and often mixed with blood; three large hypertrophied glands between the jaws, nasal membrane of rose color. Horse was fat, sleek, in a very good working condition, all other horses and mules sound. This horse was reported two years later to be about in the same condition and working all the time without any danger of contagion to other animals. I never heard that man complain of having lost another horse or mule.

Mr. Heining, of Salida, Stanislaus Co., had one mule taken sick while at work, and in twenty-four hours the nasal passage and larynx were so gravely affected as to cause choking. That mule died in two days. A week later I was called again to his place to attend to the family horse, affected with anhemia, and was astonished to find, separated in another stable, two young fat mules, that had both nostrils covered with sores. Mr. Heining received these mules, as a present, from a neighbor, who having lost several animals from the same complaint, had resolved to kill these two. Mr. Heining, being a man of means and of study, wanted to experiment with these mules. So he treated them in most any imaginable manner; they broke out on the body and legs, but improved in the course of a few months, so well that he put them to work, drove around the country with them and mixed them up with his other stock. One of them happened to be overheated and died. The other has recovered entirely and showed last August, 1888, clean legs, all swellings and tumors of the body had disappeared, only white scars visible on such places where large sores had existed; two intermaxillary glands still hypertrophied; a light, serous, watery discharge from both nostrils, various cicatrices of old sores visible in both nasal cavities. Mule is lively and in good health. That mule is cured and never had the glanders.

Ed. Hall, of Tarlock, works from sixty to seventy head of stock, and lost several years ago about \$2,500 worth of mules within six months. On examining his stock, I found two horses and a mare, with a sucking colt by her side, having a free double discharge of good character and two soft glands

loose; this mare showed the same symptoms at the time the mules were dying, but was not glanderous, as proved not only by the character of her symptoms, but by the soundness of the colt and the other stock. And still the mare and the two horses became affected at the same time and pasture as the dead mules, two years before.

Mr. Murphy of Salida, one year before, lost six mules out of a band of fifty to sixty head, while in pasture, of the same complaint. Never any measures of precaution were taken before or after the disease appeared and disappeared, and no more sick animals were heard of. The history of glanders never will mention a single case where this contagious affection will leave the premises so easily after having taken such a strong, fatal foothold on the same.

Wm. Dale, of Modesto, and three of his neighbors, had each one mule dying in the corral and stable from this affection, and never suffered any further loss, although none of these men ever cleared or disinfected their premises.

From 1885 to 1887 at least one thousand mules died or were killed in Stanislaus Co. as victims of this disease; only a few horses and mares were affected, and some of them are yet suffering from that disease to-day. Only a few ranches were spared. Nearly all these animals were treated by injection, inhalations, steaming, smoking, insufflations, all kinds of patented and non-patented condition powders, iron tincture, arsenic, calomel, copperas, etc., and not one person in the whole county died of glanders or even septicemia. And still in Illinois and other places, cases of glanders appeared in families where one or a few horses only were found affected with chronic glanders. It can therefore be safely admitted that the disease was not very benign or not the glanders at all.

I will now report one more instance in support of the non-contagiousness of this affection. Three farmers near Modesto had turned their working stock in an alfalfa pasture on the west side of the San Joaquin River, where about four hundred head of stock, horses, mules, brood mares and colts, were kept together about four months. About June 1st they

took their animals, one hundred and thirty head in all, home and fed them on grain and hay, to prepare the same for work in the harvest. Hardly three weeks later, each one of these farmers had one mule complaining of this mule disease; that one of David Kerr was all gangrened in the head, and killed after three or four weeks; it formed the subject of the post mortem examination given above. The mule of James Kenealy broke out in a hind leg; I lost sight of him; the third one belonged to W. W. Stone, and received my close attention for one month. This mule was three years old and fat; broke out on legs and body, having, inside of one week, over one hundred abscesses and buttons; both nasal cavities were gangrened, but there never was any œdema in the glottis. This mule was lively, ate well, and had all the time a splendid coat; but gradually the disease progressed, and before the farmer concluded to destroy her I was allowed to experiment on her. I inoculated an old mare in three places, one on the left costal region, and one on each side of the neck, by making a cut about two inches long and pouring the fluid extracted from a newly opened abscess of the mule in the pocket of these cuts, and closed them up with one stitch. Then I coated a small sponge over with the nasal discharge of the same mule by holding and turning the sponge around in the nostrils, and introduced this same sponge in both nostrils of the mare, for a few minutes. At the same time, the mare was tied up near the mule, eating out of the same manger and drinking from the same pail. Fourteen days later Mr. Stone resolved to kill his mule, and my mare was taken out and destroyed. The three wounds where I had introduced the matter taken from the mule, were giving a good deal of suppuration of a very healthy character and no swelling, nor cord, nor tumor, could be detected either around the three inoculated wounds nor on any part of the body. The nasal cavities were clear, and no ganglion swollen. The mare was declared sound.

No sick animal could be found on the premises of either one of these three farmers, nor in the pasture. In all certainty these mules were not glandered, unless it be the acute type;

nor was there any contagious virus existing at the home places nor in the pasture. What was the real cause of this disease here? The animals had pure air, good water, good nourishment and no work; and good, clear weather, without frost or rain, existed at the time.

To prove the change of original lymphangitis into farcy and glanders, I will relate the following two cases:

About four or five years ago a fast roadster, Lightfoot, kept in a very good livery stable in Stockton, was found suddenly, in the morning, bleeding from the right nostril. The right intermaxillary gland was very large and painful, sending a cord toward the right nostril, lip on same side very much swollen; inside of right nostril a sore three inches long by half an inch wide. This was a lymphangitis of a benign character. In a few weeks the horse was recovered, but several months later I condemned him for confirmed chronic glanders, having a hard adherent gland, a bad nasal discharge and two indurated ulcers, all on the *left* side, while the primitive lymphangitis was on the *right* side.

About June, 1888, I examined at the home of Mr. Hamilton, near Salida, a mare sick for several months. I noticed a splendid lustrous coat, the appetite very good, the crural muscles of left hind leg all decayed, same leg swollen below; from twenty to twenty-five sores on the inside surface of the same leg; those opening on the lymphatic vessels discharged a yellow fluid half coagulated; some of them recently opened gave exit to healthy, limpid lymph; a few of them evacuating a white, cheesy fluid. No swollen glands nor nasal discharge, nor farcy lesions at any other place. Diagnosis: lymphangitis of the inguinal and crural ganglions, but of mixed character. Inside of two weeks the mare showed a great improvement, the most of the sores healed, a few new ones appeared on the mammary gland, the swelling of the leg went down, mare rests better and moves easier. But suddenly a cold north wind set in, causing a chill through the whole system, and twenty-four hours later the hair was staring, coat dry, adherent, appetite bad, expression dull, animal weaker, the affected leg swollen considerably, having the appearance of farcy in-

filtration; the aspect of the sores was bad, fluid discharged is white, looks like matter. Mare condemned as affected with farcy and destroyed.

From all the above considerations, theoretical and practical, I am induced to draw the following conclusions:

1st. That this disease affects the lymphatic system, locally or generally.

2d. That it is non-contagious at the beginning, although it might be infectious; and that where several animals on the same premises are affected, the disease is caused by similar mysterious influences of locality, weather and climate, on all the animals in a like manner, without the existence of a contagious principle.

3d. That, with the progress of the disease, the animal organism might undergo such modifications as to transform the primitive lymphangitis into a farcinous lymphangitis, and then develop glanders and farcy.

4th. That the disease resists all kinds of treatment and is fatal to all mules, while the majority of horses will partially recover from its effects.

5th. That the presence of a horse affected with chronic glanders in a band of these diseased animals, cannot lead to the conclusion that the disease is of a glandered nature in every case, no matter how suspicious the appearances may be.

Prognostic.—Very serious and fatal. Death occurs almost in every case, if the animal is not destroyed by the hands of its owner. Those mules which are affected only on the body and legs, can live six months and a year if properly cared for, although losing strength on account of the great quantity of lymph which is detracted from its natural course and is a direct loss to the general nutrition. When the same disease breaks out in the nasal cavity and larynx, it causes a great difficulty in the act of respiration, and thereby greatly impedes the complete arterization of the blood, besides indirectly impairing the health of the animal, as the inspired air, when going over the gangrened sores, absorbs a diseased, decomposed material, that is introduced through the pulmonary

capillaries into the blood and constitutes a permanent danger for blood poisoning.

In horses affected in the same manner, the disease remains stationary and benign for a long time, if they are in a sufficiently good condition; and many will recover except so far as the lesions in the nasal cavity are concerned, which will constitute a permanent light discharge, render the horse unsound and constantly suspicious. But with horses there is always great danger of this disease turning into glanders, whenever a cold chill, or a disturbance in the digestion, or a weakness in the constitution through heavy labor, insufficient feeding or exposure to inclement weather, or the consecutive effects of any acute fever, cause a change in the general nutrition and in the functions of the absorbing vessels and the whole lymphatic system. Mules might likewise become glandered from similar changes, but the disease will generally affect a mixed or bastard type, or an acute character.

Treatment.—It is my earnest and honest conviction that this disease is incurable in mules, and therefore I would propose, in every case, to destroy any and all mules thus affected, for the sake of humanity as well as a precautionary measure against possible glanders and farcy.

If horses are in good condition, they might be submitted to local and general treatment, receive proper care and nursing, pure air and substantial food. Above all they must be kept separated from the other stock. The healthy animals ought to be removed to another locality on high and dry lands if possible. This measure will almost every time check the further outbreak of the affection.

THE VETERINARY SURGEON IN THE U. S. ARMY.

BY GERALD E. GRIFFIN, D.V.S.

As my article on the above subject in the December number of the REVIEW has been productive of some good to the veterinary service in the army, (as may be seen by referring to General Orders No. 19, Headquarters of the Army, dated Adjutant General's Office, Washington, February 20, 1889,

from which I will give a few extracts), I am encouraged by this partial success to renew my efforts in this direction and place the matter once more before the profession, with a hope that I may be assisted in these efforts by some of the veterinarians now in the army. In all probability it will be asked why I am so much interested in elevating the standard of the army veterinarian. To this I would reply that the only interest I have in the matter is to see the veterinary profession occupying that position which is its right to fill in the military service of this country. I am a military man by instinct, and I may add, education, and as such respect the traditions and customs that govern the military service; but still, being a member of the veterinary profession, I cannot stand passively by and see the members of that profession who have entered the military service of the United States as veterinarians reduced to the category of "horse doctors," when their training, study and education calls for something more.

The day of the "horse doctor" is rapidly waning in civil life, and even the army regulations call for men of education and ability to fill the position of veterinarian, yet it denies to them the position that is theirs by right and places them on the same level as the non-commissioned staff. My object in writing these articles is to obtain for the army veterinarian proper recognition at the hands of the Government, to arouse the members of the profession in the United States from their lethargy in order that they may enable me, by their influence, to introduce and pass a bill in Congress, giving the army veterinarian the position that his education demands, and providing for *all* the veterinary surgeons who are now serving with the army. Before leaving the subject of legislation I would remark that it was with feelings of regret that I read a certain portion of the report of the United States Veterinary Medical Association, (May REVIEW) in which the Chairman, Dr. Liantard, reported the lack of success of the Committee on Army Legislation. Of course there was lack of success where I presume the committee did not exactly know the wants of the members serving in the army, and when in all probability there was only a half-hearted interest taken in the matter by

the committee itself. What is wanted is energy in this matter, vigorous energy, perseverance and tenacity, together with encouragement and assistance from the members of the profession generally.

I will here give a few extracts from General Orders No. 19, Headquarters of the Army, dated Washington, February 20, 1889:

"No. 289 * * * * *

The veterinary surgeon shall instruct the company farriers in the proper care of the horse. In this he will give especial importance to the anatomy and pathology of the foot, showing the nature and uses of all its parts; illustrating the subject by dissections and specimens. He shall also teach the principles and practice of horseshoeing.

For the purpose of disseminating this information, he will make such visits of instruction to companies of the regiment not stationed at headquarters as may be deemed necessary by the regimental commander."

This is as it should be, and is a move in the right direction, but the veterinarian in our army possesses no rank, and his suggestions on horseshoeing to the troop horseshoer would be received in contemptuous silence by that individual, as no soldier (according to army regulations) shall receive orders from a civilian.

"No. 292½ * * * * *

If four or more companies of cavalry are stationed at a regimental headquarters, a suitable building may be set apart as a veterinary hospital, in which the more serious medical and surgical cases will be treated by the veterinary surgeon under the direction and supervision of the regimental commander."

The establishing of an hospital is an absolute necessity and every military post should have one, which should be erected from plans and specifications drawn up by a practical veterinarian; and should not be (as this order evidently intended it should) composed of some old ramshackle, tumbled down log house or mud building that has served in every capacity from Adjutant's office to Quartermaster's oil house;

for, allow me to remark, that it is a most difficult task to secure any building at all for extra use in a military post. "The more serious medical and surgical cases will be treated by the veterinary surgeon under the *direction* and *supervision* of the *regimental commander*."

This is too much! This is equivalent to a direct insult to those men who now fill the positions of veterinarians in the United States army, and who have devoted their brains, time and money to acquire a special training as veterinarians. This is pure thick-headedness on the part of the individual who fathered this part of the order, and shows a shortsightedness and shallowness that is remarkable when it is remembered that the order originated at the headquarters of the army of the United States. Imagine, ye members of human medicine, one of your number treating a case of pneumonia or amputating a limb under "the *direction* and *supervision* of the *regimental commander*." The idea is ridiculous. What does the average regimental commander know about the anatomy or diseases of the horse? Nothing! absolutely nothing! He may have a vague idea that a horse somehow has "the lung fever" or that he is liable to have the "staggers;" he knows that a horse has four legs and that his "cords" are sometimes strained, but beyond ideas of this vague nature he has none; he may be able to sit in his saddle and command his regiment, battalion or squadron, as the case may be, but to superintend and direct the professional duties of the veterinarian in the hospital and operating room is absurd; he might as well be ordered to "supervise and direct" the Post Surgeon in his professional duties in *his* hospital and operating room.

No. 290 * * * * * *

"It shall be the duty of the veterinary surgeon to visit daily or more frequently if necessary, all sick or injured animals of his regiment and to recommend to the officer responsible for them such treatment as he may deem proper. To this end he shall have access to the stables at all times, and his suggestions as to care and treatment of public animals will be received with consideration. He shall also, under the

direction of the regimental commander, attend the public animals at his station, and, upon request, such authorized private horses of mounted officers as may stand in need of medical or surgical treatment."

This is to the point certainly, but the veterinarian should have the sole charge and management of all sick animals without "*suggestions*" to or from any individuals.

No. 291. * * * * * *

"Veterinary surgeons and farriers should be encouraged to make collections of specimens, obtained from post mortem examinations, illustrating the anatomy of the horse, in order to popularize and disseminate in the army a knowledge of this subject."

Good idea! but where are these specimens to be kept? Kicked around each troop guard house, stowed away in the forage room of each cavalry stable or dumped into some old packing box in the quarters of the veterinarian, who is so often pushed for the necessary house-room that he is himself forced to build on additions to his residence so that he may not be compelled to sleep, cook and eat in the one apartment?

It is all nonsense and waste of good time and material to issue such orders as these until there is first something done for the veterinarian himself. His position must be improved in order that his opinions and actions shall receive that respect both from enlisted men and officers that it is his right to expect.

As I have before remarked, I am by instinct and education a military man, and feel that I would be happier and more content in the military service than in civil life, nevertheless I have refused two appointments as army veterinarian, for the reason that I could not criticise the orders affecting the veterinarian issued from time to time by the War Department, as it would be directly opposed to army regulations, good order and military discipline, and I am too much of a soldier to disobey any order issued by my superior officer; then again I could not so well advocate the cause of the army veterinarian from the army itself, as I would be looked upon as a malcontent and grumbler; but out in civil life practicing

my profession I can without restraint place everything in its true light before my brother members of the profession and ask their encouragement and advice on a subject of paramount importance to every veterinarian in the United States.

What is required is an organized veterinary corps in the army which shall receive the pay and rank of the members of the Medical Department of like grade; that it shall be conducted on the same principles as the Medical Corps, and that the list of drugs now allowed by the War Department for the treatment of sick animals be extended; that a competent veterinarian of recognized ability be placed at the head of this corps—such men as Drs. Salmon, Huidekoper, Coates, Stalker, Gill, and several others that I could name, would fill the position with credit—and that provision be made for those gentlemen now in the army who, though non-graduates, still have filled the position of veterinary surgeon with ability for years. In order that this or any part of it may be accomplished, it is necessary that every veterinarian in the United States, whether in the army or out of it, lend his aid and support to the project. A properly framed bill must be introduced in Congress, which your influence with your several Congressmen and Senators will secure the adoption of. I have such a bill in my possession, which I will be glad to submit through the columns of the REVIEW for your comment and criticism, if your views on the subject are favorable. It will certainly take considerable cash indirectly to carry the bill through, but a dollar or two contributed by each individual veterinarian in the United States would be more than sufficient for all purposes. I do not wish to handle this money myself. I would ask the editor of the REVIEW to take charge of the funds, or better still, the Committee of the United States Veterinary Medical Association on Army Legislation, and a strict account rendered of all moneys expended in the transaction. I am determined that this bill shall be introduced this winter, and that with or without your assistance. I shall make at least one effort to elevate the veterinary profession in this instance, even if the chances of success are against me. I respectfully invite your remarks and advice on

the subject by letter, and I need not say that your words of encouragement will be appreciated; believe me there are no selfish motives on my part in undertaking this task; my sole object is to better the position of the army veterinarian and thereby elevate the standard of the profession generally.

I take this opportunity of publicly thanking Drs. Thompson, Ind.; Burnett, Ohio; O'Connor, Mass.; Tempany, Nebraska; McDonald, Wyoming; Jarman, Maryland; Buckner, Ind.; Bland, Col.; Hopkins, Ind. Ter.; Schwartzkophff, Minn.; Morrison, N. Y., and Graham, Mo., for their voluntary offers of substantial aid, advice and influence in this undertaking; their words of encouragement and cheer have given me renewed hope and have nerved me to continue the effort to the very end.

I ask all of you who are interested in this matter (and which of you is not) to drop me a few lines, giving unreservedly any advice or opinions you have on the subject; they will be gratefully received and carefully studied. I especially appeal to those serving in the army, who thoroughly understand the situation of affairs there and know under what difficulties the army veterinarian labors, to give me their advice in the premises; write me at once—civil and military—so that when the proposed bill appears for your criticism in the columns of the REVIEW it may meet with the unanimous approval of all. I ask all veterinarians to use their influence with their Congressmen and Senators in favor of the bill; be energetic about it, see them, tell them what is wanted—it is not a political scheme—and if possible secure a promise of their support. It is only by untiring efforts on our part that anything can be done to raise our beloved profession to her proper station—second to none. Let us all make one grand effort in this particular instance, and there is no doubt but it will be crowned with success.

NOTICE.

The regular annual meeting of the United States Veterinary Medical Association will be held at 153 Pierrepont St., Brooklyn, N. Y., on September 17th.

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SINGULAR AND UNACCOUNTABLE EXPERIENCES IN FRANCE,*

SAID TO BE IN CONNECTION WITH SWINE-PLAGUE.

BY M. GALTIER. Reported and criticised by F. S. BILLINGS.)

PATHOLOGICAL PHYSIOLOGY.—*Determination of the Animal Species, Disposed to contract, by Spontaneous Contagion or Inoculation, Infectious Pneumo-Enteritis, Considered to the Present Time as a Disease Characteristic of Swine.*

Ordered by the Honorable Minister of Agriculture to go and study in the Basses-Alpes an epizootic which prevailed in the sheep, I had as early as the 12th and 13th of last January recognized that I had to deal with pneumo-enteritis, which had been transmitted from the hog to animals of the ovine species. The malady had been brought to three estates by two young hogs recently purchased and which were taken sick soon after their arrival. The sheep of the three estates became infected by living promiscuously with the hogs, and numerous cases of death were produced. The flocks on two other estates had become contaminated, either by contact which they had in the pasture with those that the malady was decimating, or by frequenting the place where the cadaver of a pig dead of pneumo-enteritis had been dragged and buried. Only one hog out of seven that had been sick had died, the others had recovered or were on the way to recovery.

Fifty-five sheep had already died at the time of my mission. There still remained a few that coughed. One was killed and presented lesions which confirmed me in the idea I had expressed, of the transmission of pneumo-enteritis from the hog to sheep. Preparations and cultures made from the products of these lesions gave new confirmation to my diagnosis, and in a first report to the Honorable Minister, I was very strongly of the opinion of the existence of pneumo-enteritis among the sheep. At the same time I called attention to the fact that the affection was much more severe

* Comptes Rendus. Tome cviii. No. 12, 1889, p. 626.

among the animals of the ovine than among those of the porcine species.

In a second report which I recently addressed to the administration, I gave an account of experiences that unquestionably establish the scientific exactness of my first conclusions.

Cultures made in the Basses-Alpes from the lesions in sheep, and cultures taken from these, induced pneumo-enteritis in guinea-pigs and rabbits. The virus has been cultivated from guinea-pig to guinea-pig, and then returned to the hog and sheep. Two young pigs inoculated—one with the culture derived from that which had been made in the Basses-Alpes, the other with blood from a guinea-pig killed by a culture—had the symptoms of pneumo-enteritis; they coughed, discharged at the nose, had fever, loss of appetite, chills, colic, red spots on the body, etc. Both survived and are on the way to recovery. On March 1, having found at the abattoir in Lyon, a pig that presented the lesions of pneumo-enteritis in process of healing, I used the bronchic ganglions from which to make preparations, cultures, and inoculations with the view to compare the results with those given by the experiences obtained with the cultures from the Basses-Alpes. In both cases the preparations and cultures showed the same bacterium; the inoculations gave the same results, the same symptoms, the same lesions, the same malady, in a word, in guinea-pigs, rabbits, hens, pigeons, dogs, sheep and goats. The two viruses, inoculated for comparison in several series of the animals just enumerated, caused them to perish of the same affection. Besides a number of guinea-pigs, rabbits, hens, and pigeons, eight sheep, four goats, and four dogs were subjected to the action of the two viruses. All these animals succumbed, presenting the symptoms of pneumo-enteritis. All showed in their blood and their organs the same bacteria. The sheep and the goats presented the symptoms that had been observed in the flocks at the Basses-Alpes: redness in the regions of delicate skin, signs of pulmonary disease and enteritis, swelling, etc., were observed among these animals. The lesions were particularly remarkable for their constancy,

generalization, and by their dominant characteristic exudation. All the inoculated died rapidly, like those in the Basses-Alpes, all present among other alterations a violent congestion of the internal surface of the skin, with darker spots in certain regions, a no-less active congestion in the ganglionic system, an exudative inflammation of the chest and pleura, with effusion of liquid in the peritoneal and pleural cavities, and with formation of pseudo-membranes, lesions of enteritis and fibrinous broncho-pneumonia. The dogs presented lesions of the same order, especially enteritis and pleuro-pneumonia.

I very recently received from the Loir lesions coming from a young pig, and with this third source of virus I have obtained the same results as with the two preceding. I transmitted the disease to guinea-pigs, rabbits, sheep and goats.

I am at this moment making attempts to transmit the disease to bovines and to solipeds, and if I may judge of them by facts of observation that I have already gathered, it is permitted to believe that they will end in positive results. I also occupied myself in trying to learn if certain affections that break out at certain times and in certain places among sheep, goats and cattle, are not connected with pneumo-enteritis. I have especially in view, in these investigations, a disease among goats that has been described under the name of "*bon-frida*," that has at times been regarded as contagious peripneumonia, and which has caused considerable losses in certain flocks. I have also in view a malady of the bovine species which, by the pulmonary lesions which it shows, much resembles pneumo-enteritis. I have besides on the same farm observed the disease of swine and that of bovine animals.

To sum up, pneumo-enteritis, aimed at by the decree of July 28, 1888, to the sanitary police, as a disease that should be special to the porcine species, is transmissible by inoculation or direct or indirect contact not only to small animals such as guinea-pigs, rabbits, barn-yard fowls, but also to dogs, sheep, goats, and very likely to animals of the bovine species. It is much more severe among sheep and goats than among hogs. It is then absolutely indicated to prevent all contact between sick hogs and other animals on farms where this

affection breaks out. It is finally urgent to extend to the other aforesaid species the measures applicable to the porcine species and modify accordingly the decree of July 28.

One scarcely knows exactly how to comment upon the above experiments. If they show relation to a swine-plague they certainly do not conform to the American swine plague, which is not necessarily a pneumonia, nor can it be absolutely termed an enteritis, if under the latter term we mean a disease of an ulcerative or neoplastic type, as both will fail in a very great number of cases. Experimental results in several animals, such as rabbits, guinea pigs and mice, have no essential value to me, as it is very seldom that any pulmonary lesions follow inoculations with virulent cultures of the swine plague organisms in these animals, the real disease, a septicæmia without complications, usually following. I have made a few inoculations in puppies, but weaned ones,—but with no ill effects whatever. As to sheep, there have been hundreds of practical experiences in this country, where large flocks of sheep have been yarded with diseased swine without any evil result, and as I write, there is a gentleman in my room who, purposely, has turned his sheep in among diseased swine for several hours each day in order to have them clean up a portion of the corn left by the swine, which of necessity must have been more or less polluted by the hogs. He says, “no evil results ever followed it.” The same is true of cattle, for hogs are purposely kept to follow after grass-fed cattle, and while every hog may die of the swine-plague, there has never been a case of the cattle becoming ill. With the facts staring us in the face, and they have all the value of exact experimentation, we must conclude that our French confrere has been misled, and while he may have had to do with a pneumo-enteritis, that it was a disease entirely distinct from the swine plague. It may be well also to call attention to the fact that while our English friends look upon the swine plague as “pneumo-enteritis,” that also from these we have no reports of either cattle or sheep having been attacked, a fact that would scarcely have escaped the attention of such men as

Walley had it ever occurred. In my forthcoming report, as also in the REVIEW, will be published an account of a new cattle disease, which is a pneumo-enteritis as much as swine plague is, and which may also attack other herbivora, but will not affect hogs as has been demonstrated by experience and experiment. This indicates that we have not got to the bottom of this class of diseases, as also the absolute folly of depending upon inoculations of small animals for diagnostic purposes in this class of diseases, as well as the microscopic appearances of their germs, for no man could absolutely distinguish between the germ of swine plague and the corn-stalk disease in cattle, (the disease alluded to) in that way. It looks far more as if the disease our French colleague had been studying was the much more widely extended "wild-seuche," which may be also a "pneumo-enteritis," than the swine plague, and which seems capable of complicating a much greater variety of animals than the swine plague, though the germs are much alike.

CAN GLANDERS BE PREVENTED BY INOCULATION?

BY FRANK S. BILLINGS, Director of the Patho-Biological Laboratory of the State University of Nebraska.

Living in a State with a "Live Stock Commission" which has been deservedly termed "the Glanders Trust" and where during the past two years a bonus has been paid for horses diseased with this equine pest in the form of remuneration for the most pregnant varieties, while the occult forms have been untouched and left to keep up the supply of diseased horses in order that the "Trust" may live, it is but natural that this question should have often entered my mind: Can glanders be prevented by inoculation? When we carefully look over the evidence, that is the literature which this disease offers, it would seem as if everything is so manifestly contradictory to such a conclusion that it would be a waste of time to consider it for a moment.

The cases of reported recovery are so seldom and the evidence so questionable, when taken into consideration with

the possibility of error in diagnosis, that the probability of such a procedure being practicable seems at first impossible. While I personally know of three cases in which all external symptoms, with the exception of the cicatrices in the septum nasi, disappeared, and in which the three horses all did good work and apparently thrived as well as any horse could be expected to, still, though looked upon as "cured" cases, the fact that in each case the horse in question was the cause of the extension of glanders to those stabled with, or worked with it, and the fact that chronic pulmonary and other organic lesions were present on necroscopical examination, sufficiently demonstrates that they were anything but "cured" cases of glanders. In fact, I think it can be safely asserted that recovery from what we know as constitutional glanders does not warrant any such conclusion.

The next question is, does local glanders, "farcy," offer any better evidence in the desired direction? That "farcy" is at times curable, or perhaps, better, healable, seems to be a matter beyond question as well as that in such cases constitutional glanders does not follow. I am perfectly aware that here too, we are treading upon a much disputed territory, but, on the other hand, the very evidence that we desire is not to be had, for, so far as known to me, there have been no exact experiments made of exposure of such "cured" farcy cases to infection that would necessarily result in constitutional glanders of an acute and destructive character.

The unknown, but really immense loss, which this country annually suffers from glanders, as well as the considerable number of cases in human beings, some of which do not terminate fatally by the way, surely indicate that this question of preventive inoculation is worthy of the most extensive and rigid experimentation. If acute, constitutional glanders is preventable by inoculation it must be by the production of a mild and healable cutaneous form. Can such be induced? Practical experience makes it probable. Experiment must conclusively demonstrate the fact pro or con.

With regard to the prevention of endogenous or contagious diseases by inoculation I am strongly of the opinion,

which is supported by all known evidence, that it is not to be done by the method of artificially mitigated cultures of their specific germs, as is the case in exogenous diseases such as rouget-rothlauf of swine, hen cholera, black leg, anthrax and the swine plague, the southern cattle plague (Texas fever) and typhus and yellow fever in man and such strictly septicæmic diseases, but rather by following the precedent of variola and its prevention by vaccina, or in other words, by the continual transmission of the disease for generations through the organism of some moderately susceptible animal, in which it does not prove fatal, until it arrives at a given constancy of mitigated virulence which, while still capable of producing a protecting disease in the species of animals in which such a disease occurs, under natural conditions, does not produce it in such a form as to render such inoculated animals dangerous to others of the same species. This is exactly what occurs in vaccination. In this regard I have long thought that such results might possibly be acquired by the successive production of cutaneous glanders in dogs.

This hypothesis has been engaging my thought for a long time, and I was not only pleased, but somewhat surprised, to see that introductory steps in this direction had been entered upon by one of my French confreres, whose communication is just published in the "Comptes Rendus," Tome c. VIII, No. 10, 1889, p. 530, of which is offered a very free translation.

Mr. Strauss says: "Glanders is considered to be a virulent malady for which there exists no immunity. The experiments which I have made do not agree with such a conclusion. We know that the dog possesses but a feeble degree of receptivity to glanders infection, for when by scarification or incision, we insert glanders material under, or into, the cutis of this animal, a local ulceration follows characterized by spontaneous cicatrization at the end of a month or six weeks; it is not common to see the disseminated or constitutional lesions of the disease, with death, follow such a procedure in the dog."

In my experiments I have adopted another course, viz: I have directly introduced pure cultures of the germ of glan-

ders into the circulation by injecting the same into the saphena vein. When a considerable quantity was injected (1 to 2 centimeters) the animal presented the phenomena of intense fever and great constitutional disturbances at the end of seven days; the skin was marked by numerous nodules in its substance, which eventually ulcerated, yielding a sero-sanguinolent secretion conformable to that generally seen in these lesions. Death resulted in from three to six days. Macroscopical examination revealed the presence of fine glanders granulations in the liver and spleen, but more rarely and less extensively in the lungs. Cover glass preparations of the cutaneous secretion and blood of the heart revealed the presence of glanders bacilli. These experiments with large quantities of pure bouillon cultures demonstrated the fact that a fatal form of the disease could be produced thereby in the dog.

If, on the contrary, one injects into the same vein a smaller quantity of the same culture, the results are of a much less grave character, the cutaneous eruption is not so acute or severe and the animal recovers. This is a new and striking example of the fact shown by Chauveau of the proportionality which exists in certain diseases between the dose of the virus and the results following on the same.

With dogs thus treated and on the lapse of some weeks or months after recovery, extremely strong doses of a very virulent culture were again injected into the vein in question, doses that would have been invariably fatal in an animal (dog) not so prepared. Neither local nor general phenomena were observed to follow in most of these experiments, though a mild febrile condition and a slight cutaneous eruption was occasionally seen. These experiments demonstrate that artificial immunity can be induced in dogs in the manner indicated."

So much for our author.

Certainly we have here strongly conclusive experimental testimony in favor of my hypothesis. The next question is to decide whether by carrying the first induced cutaneous affection to healthy dogs in serial succession we can induce a

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glanders eruption in which the bacilli will finally acquire a constancy of mitigated virulence, or whether such a procedure is followed by entire loss of virulence. Both of these questions can be tested upon male guinea pigs, in which we have specific lesions. If such a procedure in dogs causes entire loss of virulence on the part of the bacilli, then we must take them from the dog at an intermediate period, and by using the guinea pig endeavor to find whether this standard of virulence is retained in that animal, or whether it augments by being passed through many. In the latter case we must have recourse to another animal, possibly the rabbit. If such a standard of mild virulence can be obtained then we must have recourse to the horse, and after having produced a mild cutaneous disease which heals of itself, and is non-contagious, then we must expose such animals to general infection, and if no evil results follow the problem is solved. While this question is open to a much more detailed discussion, it would seem that enough has been said to introduce its importance to our experiment stations.

Lincoln, Neb., April 8, 1889.

ERGOTISM.

By DR. H. A. SPENCER.

A Paper read before the California State Veterinary Medical Association.

Mr. President and Gentlemen :

Those members who were present at the last meeting will undoubtedly remember that I made a few remarks bearing upon the disease known as "Ergotism." Our President evidently deemed the subject of interest and requested that I introduce it at our next meeting, and while it affords me great pleasure to comply with his request, I sincerely wish it had fallen into abler hands. Any failure on my part I trust you will attribute rather to the lack of ability than to want of inclination, or opportunity to acquire the information.

The term "Ergotism" has been applied to the poisonous effects of ergot of rye.

History tells us that this affection made its appearance at a very early date, and from time to time it has manifested itself in epidemics since the days of Claudius Galenus, commonly called Galen, and who was celebrated as a physician in Rome about A. D. 160.

In A. D. 992 there was a widespread and deadly epidemic in France. Two years later it again appeared in the same territory, and in 1041 it was prevalent in England, France and Germany. Then forty-eight years later, in 1089, it was rife throughout the Continent, and especially was it prevalent in the western parts of Lorraine, where many persons (so says an old author), became putrid in consequence of their inward parts being consumed by St. Anthony's fire. Their limbs were rotten and became black, like coal. They either perished miserably, or, deprived of their putrid hands and feet, were reserved for a miserable life. Moreover, many cripples were afflicted with contraction of the sinews (*nervorum contractio*.) After an absence of ten years, and covering a period of more than a century, it was more or less prevalent in France and Spain. In 1598, in Germany, and at numerous dates from 1694 till 1754 it appeared in various countries in Europe.

In America reference is made to it about 1820; and in March, 1884, you may remember there was an outbreak of it, among cattle, near Neosho Falls, Kansas, which created not a little excitement, in its having been at first pronounced foot and mouth disease, by a number of veterinarians, and confidence was not re-established until extended investigations were made by the Bureau of Animal Industry, through Dr. Salmon, its Veterinarian-in-Chief.

NATURE AND ACTION OF ERGOT.

The substance known as ergot is one of the stages in the growth and maturity of a fungus, which has been named *Claviceps purpurea*, and the term ergot was applied to it by the French from its fancied resemblance to the spur of a cock. The first botanical writer who notices ergot is Lonicerus. Chambers says it begins to show itself on the germen of

grasses when it is young. Different parts of the flower assume a mildewed appearance, and become covered with a white coating composed of a multitude of spore-like bodies mixed with delicate cobweb-like filaments; a sweet fluid, at first limpid, afterwards viscid and yellowish, is exuded; the anthers and stigmas are cemented together; the ovule swells till it far exceeds the size of the natural seed, bursts its integuments, is elongated, and is often curved, sometimes carrying on its apex a cap formed of the stigmas and anthers agglutinated, and assumes a grey, brown, purple, violet and finally a black color, as the viscid exudation dries and hardens. The structure differs very much from that of the properly developed seed. The qualities are not less different; nearly one-half of the whole substance consists of *fungin*; and the cells contain, instead of starch globules, a fixed oil (oil of ergot.) Ergot appears to have been first discovered on rye, in which it is very conspicuous for the large size it attains, though it frequently makes its appearance on other cereals, particularly on barley, wheat and maize. It was supposed to be a disease occasioned by wet seasons or other climatic causes, but it is now fully determined to be due to the presence of the *mycelium* of a fungus, the spores of which may be carried to the flower through the juices of the plant, for there is reason to believe that ergot in a field of grain may be produced by infected seed; and this is undoubtedly the reason that the fields of which I shall presently speak are affected year after year.

THE ACTION OF ERGOT ON THE ANIMAL BODY.

According to Diez, the principal effects of poisonous doses of ergot are in the lower animals profuse salivation, vomiting, dilation of the pupils, hurried breathing, frequent pulse, cries, trembling, staggering, paraplegia, sometimes diarrhoea, sometimes constipation, thirst, convulsions and death.

Mr. S. A. Wright, in a series of experiments (*Edinburgh Medical and Surgical Journal*) noted when the medicine was given by the mouth symptoms similar to those just spoken of, the paralysis was much more marked than the spasms. Late

in the poisoning the heart's action became irregular and intermittent, and the pulsations, which had been rapid, grew slow and feeble. In some cases special senses seemed to be destroyed, and coldness of the surface was a marked symptom.

Fleming, in his *Manual of Veterinary Science and Police*, says: "The ergot of rye, wheat, etc., has given rise to extensive disease in man, animals and birds, marked by convulsions, paralysis, dry gangrene of the limbs, loss of hair and horn, and other strange phenomena."

The above summary of the general symptoms caused by poisonous doses of ergot show that the phenomena are mainly paralytic in their nature, and, on the whole, it is probable that the chief action of the drug is upon the nerve centers. Now, Mr. President and gentlemen, as it would occupy too much of your valuable time for me to give you a description of the many experiments and observations that have been made with this drug, both in this and other countries, I will proceed to give you a concise report of the disease as brought under my notice in Santa Clara County, this State.

The animals that I have been consulted about had been fed on hay grown on what is known as the Bascom ranch, situated near the town of Santa Clara. Said ranch is on rather high ground, the soil being of that rich black character known in this country as adobe. It is extremely productive, and in no way distinctive from adjacent places, where a superior quality of hay has been produced annually for more than a quarter of a century, and the use of which has never proved deleterious to horses, cattle, sheep or hogs; but when forced to eat the hay grown on the ranch in question the loss of hoofs, horns, manes and tails is by no means an unusual occurrence—horses and even cows exhibiting all the symptoms of acute laminitis and shedding, as I before stated, their hoofs or horns, as the case may be.

The following symptoms are as exhibited by the animals that came under my observation: Tenderness and heat in the feet; swelling at the coronet; great disinclination to move; temperature considerably elevated for the first few days, but gradually subsiding; secretions normal; appetite voracious. At the expiration of a week or ten days the lameness some-

what subsides and remains so until immediately before casting the hoof, when the animal can scarcely be induced to move. However, as soon as the old horn is cast they rapidly regain their wonted vigor. In milch cows the secretion of milk is usually suspended.

There is undoubtedly a great deal of difference in these symptoms compared with those observed by Prof. Salmon during the outbreak in Kansas; but we must not forget that the disease manifested itself there at a time when the weather was very cold, and I think that cold has a tendency to aggravate the symptoms. Further, we must remember that insufficient doses or a poor quality of the agent in question would modify the symptoms very much.

The treatment I have found most beneficial is a radical change of diet, fomentations of the feet for the purpose of allaying the primary inflammation, then blistering the coronets to stimulate the growth of new horn.

In the course of my experience I have never known an animal to be permanently injured by the malady. On the contrary, I know of several horses that were accidentally ergotized by the use of the hay in question, who had been sufferers from contracted feet and corns, and who, when recovered from the effects of the ergoted hay, had very good and well-shaped feet. And I think that, perhaps, the fodder which has proved so baneful to many innocent victims might be turned to good account in the treatment of seedy-toe and other diseases afflicting the horny structure. This is a point I hope will be discussed.

Before closing I wish to relate an instance of a mare with foal in utero. The mare became afflicted with ergotism, but carried her foal full time. When born, however, it was without any horny covering to the feet, except a narrow band of apparent new growth at the coronets. The foal lived and thrived for a few days, but the owner, thinking him a hopeless case, destroyed him. This I regretted very much, as I think the growth of horn over the apparently withered parts would have proved interesting and instructive.

Thanking you for your kind attention, I hope a useful discussion may follow.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."—VETERINARY RECORD.

ACTION OF ESERINE IN FLATULENT COLIC.

BY RICHARD R. MORRISON, D.V.S.

Animal was a bay truck horse six years old, about fifteen hands three inches high; owner said he had been treated for colic three times previously. When admitted to the hospital he was suffering great pain and could hardly be kept on his feet; there was profuse perspiration, but not much swelling, therefore did not think it advisable to puncture at once, especially as owner said he had not been able to notice much difference for the previous half hour; he said he had given the animal a colic drench about an hour before he brought the animal to the hospital. As soon as the animal was put in a loose box he lay down and began rolling; he was given \mathfrak{z} j chloral, which kept him quiet for nearly an hour, at about which time he became violent; he would struggle until he got on his back, and then would lay quietly for a while. We made him get on his feet and he staggered about and fell, showing the effects of the chloral very plainly. Animal commenced to get worse, sweating more freely, mucous membrane getting pale, mouth cold and clammy; we then took gr.j eserine salicylas, pulverized it very carefully, added a few drops of aetheris sulph. and then added \mathfrak{z} ij aquæ destillata and dilating the left jugular vein injected it intravenously. The animal at this time was laying on his back perfectly still; in five minutes there was a passage of flatus followed in two minutes more by a discharge of feces. Animal then commenced to struggle again and in another eight minutes had a second discharge of feces which was accompanied by a good deal of flatus. Animal then began to be much easier, ceased struggling and lay quietly on his side instead of on his back

as before, and stopped perspiring; in about five minutes more there was a third discharge of feces; we waited for about twenty minutes more and animal still lay quiet, though occasionally passing flatus; there was no discharge of feces. We then went away and returned in an hour and found animal had had two more passages and was perfectly quiet; in another hour went to see him and found animal on his feet and apparently well. Next morning animal had ceased purging, and though he was kept under observation all day, he showed no bad effects from the treatment.

EXTRACTS FROM GERMAN PAPERS.

A CASE OF PURPURA IN A STEER.

By J. STETTER.

Although this affection in the horse is often recorded in veterinary literature, it is seldom mentioned in respect to bovines. Called to attend a heifer, eighteen months old, the author found the entire surface of the body covered with crusts of various sizes, resembling dried blood. Some were of the size of a pea. Red rutilant epitaxis existed in the nostrils, and the pituitary membrane was covered with red patches. The nose, ears and extremities were cold; pulse, 81; respiration, 60; temperature, 37.1° C. There were red spots upon the buccal mucous membrane, shaped like dots, or in striæ, which were also found on the vaginal mucous membrane. There was complete anorexia. The animal was destroyed, and the post mortem revealed the following lesions:

The skin, subcutaneous cellular tissue, the surface of the muscles and the mucous membranes were literally stuffed with hemorrhagic spots and striæ, of various sizes. The blood vessels were gorged with blood; the pulmonary pleuræ highly congested, and the pericardium and endocardium covered with ecchymoses. The liver, kidneys and spleen, and the surface of the kidneys and of the intestines were also covered with red spots. These lesions, so commonly extensive, left no doubt in the mind of the author as to

their being those of anasarca, or *morbus mammosus*, analogous to that observed in horses.—*Wochens. fur Thierh. and Viehz.*

SUSPICIONS OF GLANDERS FROM THE PRESENCE OF A TUMOR
OF THE SEPTUM NASI.

BY M. URBAN.

A horse presented the following symptoms: General condition quite good; abundant discharge on the left side, sticky and bloody; nasal opening covered with scabs; left sub-maxillary gland enlarged, hard, lobulated, and not adherent. Though no chancre or cicatrix could be seen or felt, a diagnosis of suspected glanders was made, and, by request of the owner, the animal was killed. A tumor was found on the superior third of the left nasal septum, brownish-red in color, of the size of one's fist, and from which pressure caused the oozing of a reddish-brown liquid.—*Wochr fur Thierh. and Viehz.*

UPON CEREBRAL TUMORS IN THE HORSE.

BY N. J. ECKARDT.

The author, clinical teacher in the Berlin Veterinary School, reviews all the cerebral tumors of the horse. He speaks first of the cholesteatoma, and of the various opinions admitted as to its action on the choroid plexus. If *Gurlt*, *Gerlach*, and *Bruckmuller* admit in general that these tumors produce no bad effects on the functions of the brain, so long as they are not larger than a pigeon's egg; others, such as *Kohne* and *Dunker*, have observed accidents, and inflammations of the brain, as consecutive to their presence, even when very small.

Eckardt then mentions a case of melanosis of the brain, published by Jessen, in the *Magazine von Gurlt und Hertwig*:

On opening the cranium of a horse which had died after a long sickness, Jessen found a melanotic tumor ten lines in diameter, situated outside of the dura mater, in the cavity of the left temporal bone.

The author then mentions two cases observed by himself, which are of interest on account of the symptoms, and also of the seat of the growth. The first was a cholestatoma of the size of a goose-egg, on the choroid plexus, in the left venticle. The second was of the size of a pigeon's egg, and was situated in the third ventricle of the brain. This last, according to Eckardt, is the unique mention of cholesteatoma, in the third ventricle.—*Wochens. fur Thierh und Vichz.*

VETERINARY CENSUS OF HOLLAND IN 1888.

On the first of January, 1888, there were 418 veterinary surgeons in Holland, of whom 179 were graduated, and the remaining 239 empirics, to whom the right to practice had been granted. This right will not be granted hereafter. On the first of July, 1888, thirteen students of the Veterinary School of Utrecht received diplomas. There are at present 95 students, 34 in the first, 25 in the second, 21 in the third and 15 in the fourth year.—*Æester Nonast fur Thierh.*

FOLLICULAR CONJUNCTIVITIS IN DOGS.

BY PROF FROHNER.

According to the author, the dog is of all domestic animals the one most affected with diseases of the eye, follicular conjunctivitis in particular. This affection differs from other diseases of the conjunctiva—catarrhal, purulent or phlyctenulous—by its seat, being generally localized on the internal surface of the membrana nictitans.

It can be discovered by pulling it outwards, when it is seen covered with numerous dark colored, oval nodosities of the size of millet seeds, at first very small and in small numbers, but soon extending and increasing in size. Under the microscope they appear to be composed of a mass of lymphoid cells, and of a stroma. This affection may be complicated with catarrhal conjunctivitis, entropion, etc., etc. Irritation from foreign bodies, dust and eczematous affections

are common causes of the lesion. As treatment, which is long and difficult, Frohner recommends washes of boric acid, two per cent.; corrosive sublimate, half per cent.; salicylic acid, two per cent.; quinine, five per cent.; chloride water, ten per cent. This may answer at the beginning of the disease, but in later stages astringents are preferable, such as sulphate of copper, half to one per cent.; nitrate of silver, 0.5 to 2 per cent.; and Goulard's extract, one per cent.; if these fail, extirpation of the membrana nictitans is indicated.—*Archiv. fur Thierh.*

EXPERIMENTAL TRANSMISSION OF GLANDERS TO SHEEP.

BY PROF. COSKOR.

Coskor inoculated on the internal face of the thigh of a sheep, a culture of glanders obtained after inoculation of glanders pus to a guinea pig. Two weeks afterwards the sheep presented all the symptoms of nasal glanders. The animal was killed four weeks after the inoculation, and presented the following lesions: Abundant discharge; large yellowish ulcer on the left inferior turbinated bone; chancre on the same side of the septum nasi; yellowish nodosities on the pituitary; lymphatic glands of the neck swollen with miliary tubercles, greyish and caseous; soft caseous tubercles in the spleen. Microscopic examinations of the discharge from the chancres of the tubercles of the hypertrophied glands, treated by the method of Loeffler and Schutz, revealed in them numerous glanders bacille.—*Berlin Thier Wochen.*

DIABETES IN THE HORSE.

BY MR. HEIP.

Two cases of this affection were observed in the same stable, in horses used together in a team, the second case developing twenty-one days after the first.

This rare affection was recognized by the following symptoms: Slight icteric coloration of the membranes; pulse and heart action normal; rectal temperature also; auscultation

tion and percussion normal; appetite fair for oats, but hay refused; no renal pains on pressing, through rectal examinations; urination very abundant; urine examined by Trommer's test, presenting a deep red, yellowish precipitate; quantitative analysis showing 3.75 per cent. of sugar.

The symptoms soon became more and more accentuated, the animal beginning to lose flesh rapidly, and to become weak on his hind legs. Thirty-two days from the beginning of the disease a greyish spot was observed in the eye, which increased in size and soon terminated in a true ulceration of the structure.

At the post-mortem both horses were found in a state of excessive emaciation, and there was an hypostatic pneumonia, and a peculiar coloration of the liver, which was hypertrophied, but no other lesions.—*Wochens. fur Thierh.*

DIAGNOSES OF GLANDERS.

BY MR. CHELSCHOWSKI.

After passing all known means of reaching a positive diagnosis in cases of doubtful nature, and which often give more or less defective results, the author proposes the following as certain and rapid, viz: The removal of the submaxillary gland and its examination, both microscopically and macroscopically.

At the macroscopic examination, a section of the gland of glanders will show small nodosities, formed by little greyish massas, having a white-yellowish center.

For the microscopic examination, two modes are recommended: First, that of *Læffler and Schutz*. Immersions of the sections during twenty-four hours in a solution of the blue of methylene and of potash, and decoloration with acetic acid. Second, that of *Salis*.—Immersion during five or ten minutes in a solution of the blue of methylene, (one per cent.) and borax (one per cent.) and washing with water or weak alcohol.

Sections examined with high power immersion show granulations of glanders in various stages, containing some

bacilli. They are quite numerous in recently formed nodosities, but become less so when it is older.

The author has obtained positive results with this mode of inquiry in less than an hour. In one case, where the gland seemed to the naked eye perfectly healthy, he detected by microscopic examination a few rare bacilli of glanders.—*Eestirs. Monats fur Thierh.*

SOCIETY MEETINGS.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of the Ohio State Veterinary Medical Association was held at Delaware, O., Tuesday, July 16th, 1889. The attendance was small, but almost all parts of the central and northern sections of the State were represented, and an interesting and instructive meeting resulted.

The morning session was occupied in the performance of surgical operations upon subjects procured by the local veterinarian, Dr. Wight. The clinic consisted of an operation on a case of "fistulous withers," performed by Dr. Tanner of Ashtabula with the assistance of others. The removal of a "sinusal polypus" which required trephining of the super maxillary and frontal sinuses was performed by Drs. Yonkerman and Hillock, and a few cases of lameness were presented for diagnosis.

At 2:30 P. M. the members convened in the parlors of the Hotel Donavin. The President, Dr. Hillock of Columbus, called the meeting to order with a few well chosen remarks. The Secretary, Dr. Torrance, read the minutes of the last meeting, which were adopted, and presented the official correspondence for discussion. Among the correspondence was a letter from Dr. J. C. Meyer, Jr., with an accompanying resolution condemning the practice of lancing and burning horses' gums as now in vogue. Dr. Meyer requested that the resolution be signed by the members present, but opinions were so conflicting that a motion was carried to lay the matter over until the next meeting, when Dr. Meyer might be present.

The first essay presented was read by Dr. G. W. Butler, who chose for the substance of his paper a "Synopsis of the practical points to be considered in the treatment of Collar Tumors, Fistulæ of the Withers, Abscesses under the Levator Humeri and kindred affections." The paper teemed with practical points and elicited an after discussion in which Drs. Miller, Torrance, McLain, Wight, Butler, Taylor, Tanner, Sheperd and Hillock took part. A discussion upon the treatment of open joints and bursæ ensued, in which Drs. Yonkerman and Butler participated. Dr. Yonkerman spoke at some length upon the "Modern Methods of Antiseptic Surgery," while Drs. Torrance and Miller discussed the practical methods of removing enlarged bursæ on the extensor tendons, the former favoring the free use of the trochar and canula, with injections of iodine, the latter advocating special astringent prescriptions applied externally.

Dr. Torrance reported a case of "Acute Diffuse Erythema," due to overheating a livery horse on July 4th. At the time of last seeing the horse, the body was entirely "nude" with an exception of a few hairs which still remained in the mane

and tail. The animal had survived an intense fever and recovery was looked for with also a return of the coat of hair.

Dr. Miller introduced the subject of myotomy, claiming great success in the straightening of tails by severance of the levator and depressor muscles of the concave curve. Dr. Torrance protested against the method, claiming that in the contraction of the cicatrix at a considerable period after the operation, the tail was again drawn more forcibly than ever to the same side. He advocated the removal of a V from the muscle of the convex side, and retaining the tail in splints until healed.

The meeting adjourned at 6 P. M. to re-assemble in the evening.

In the interim between the afternoon and evening sessions Dr. Miller of Seville performed the operation of myotomy upon two horses.

Meeting re-assembled at 7:30. Dr. Torrance addressed the meeting, proposing that the President appoint a committee to draft resolutions of condolence to be forwarded to the widow and son of the late Dr. John Yonkerman of Cleveland and to be recorded in the minutes of the Association. The motion was seconded by Dr. Tanner and carried. The President then appointed Drs. G. W. Butler, A. W. Wight and W. J. Torrance.

Moved by Dr. Torrance, seconded by Dr. W. P. Yonkerman, that Dr. Taylor of Marysville be elected a member of our Association. Carried.

Judge Jones (Ohio Board Live Stock Commissioners) upon being called upon by the President, addressed the meeting, making some interesting remarks upon foot rot and scab in sheep, hog cholera, etc., etc., and also presented the members present with the latest reports of the State Legislature upon these affections.

Drs. Hillock, McLain, G. W. Butler, and D. P. Yonkerman discussed the diseases mentioned by the Judge.

Dr. Yonkerman described two cases of spinitis, and Dr. Torrance described at some length the symptoms and pathological lesions of "Coma Somnolentum" in horses. Dr. Tanner reported two cases of "Oleander Poisoning;" Dr. Sheperd reported a case of persistent anorexia in a cow which finally recovered; Dr. Butler described a modified form of rumenotomy which he performed successfully on cows; Dr. Taylor described at some length an endemic of pernicious anæmia which was destroying large herds of horses upon the Derby Plains of Union County, Ohio.

Drs. Wight and others followed on the same subject. The President directed the Secretary through his correspondence to select the essayists, etc., for the following meeting.

Meeting then adjourned.

W. J. TORRANCE, V.S., *Sec'y.*

NEW JERSEY STATE VETERINARY SOCIETY.

The New Jersey State Veterinary Society held its annual meeting at the White Hall Hotel, New Brunswick, N. J., on Thursday, August 1st, with Pres. Dr. J. C. Corlies in the chair.

The minutes of the last meeting were adopted as read.

The following officers were elected for the ensuing year:

Dr. Elden L. Loblein, of New Brunswick, President; Dr. Joseph Nayler, of

Jersey City, 1st Vice-President; Dr. W. H. Mook, of Metuchen, 2nd Vice-President; Dr. Chas. Kuehne, of Jersey City, was re-elected Secretary; Dr. A. H. McIntosh, of Jersey City, Treasurer; Dr. W. H. Lowe, of Paterson, Dr. E. R. Voorhees, of Plainfield, Dr. J. C. Corlies, of Newark, Dr. E. R. Mercer, of Montclair, and Dr. James McCaffrey, of Red Bank, were elected as the Board of Censors.

Dr. J. Hopkins, of Newark, Dr. W. Dimond, of Jersey City, and Dr. James McCaffery, of Red Bank, were elected as members.

Dr. E. L. Loblein, of NewBrunswick, read a paper on "Tuberculosis" which was followed by a lively discussion.

The next meeting will be held at Trenton next February.

The meeting adjourned and was followed by a banquet.

CHAS. KUEHNE, Ph.G., D.V.S., *Secretary.*

OBITUARY.

Died, at West Newton, Mass., July 29th, Dr. Elisha F. Thayer, aged 73 years, 6 months and 27 days.

Elisha F. Thayer was born at Dedham, Mass., in December, 1815; his father was a practising physician, and for many years held the office of postmaster.

The subject of this sketch was from his early years thoroughly in accord with the animal kingdom, and filled with that love for the domestic animals which never left him to the day of his last sickness, even mindful and anxious for the welfare of a favorite animal long after the infirmities of age and disease had made such attentions on his part painful and distressing, and to this natural aptitude may be ascribed much of the success of his practice.

About 1850, Dr. Thayer began to ride and study with Dr. Charles Wood, of Boston, who at that time was one of the most noted veterinarians of that city. He continued riding with Dr. Wood and practising himself until 1853, when he went abroad to study, spending his time at London and Glasgow, at the latter place being a special student of the celebrated Gamgee.

He spent some months there, and on his return home entered again into practice, to give it up only when disease had made such inroads on an otherwise robust and vigorous constitution.

It was the lot of Dr. Thayer, and through him the veteri-

nary profession as well, to receive such recognition of his ability and knowledge as falls to but very few men.

In the early part of the sixties there made its appearance at Belmont, Mass., a new form of disease, in a herd of Dutch cattle, and Dr. Thayer, in company with Dr. George K. Dadd, of Boston, was sent by the State to investigate the case.

Dr. Thayer made his decision that there was an outbreak of contagious pleuro-pneumonia.

This opinion was further strengthened by new outbreaks in various parts of the State, and which could be traced back in every case as coming from the Belmont herd.

Dr. Thayer's views and advice were not received with favor by the medical profession, nor by some of his own profession, nor by many men at that time prominent in the agricultural interests of the State.

In 1862 Massachusetts established the Cattle Commission, and in company with two laymen, Dr. Thayer was appointed to serve as such.

This Commission and its successors adopting the views and advice of Dr. Thayer, went steadily at work to eradicate the disease, and in 1865 they were able to report to the Legislature that the disease had been stamped out.

The total expense of their operations amounting to about \$68,000, since which time there has never been an outbreak of the disease within her borders.

To the steady, persistent and untiring labors of Dr. Thayer, in the face of opposition, bitter in the extreme, strengthened and encouraged by professional as well as other friends, the State of Massachusetts owes her lasting immunity from this terrible cattle scourge.

For nearly twenty-five years Dr. Thayer was a member of the Massachusetts Cattle Commission.

He also was a member of the United States Treasury Cattle Commission in company with Prof. Law, of Cornell University, and J. H. Sanders, Esq., of Chicago.

Dr. Thayer was one who had ever an eye single for the advancement of the profession which he loved, and for the health and welfare of the animal.

He was a student, ever at work either in his library, on the dissecting table or on the subject, working long into the night; to be found again early among his clientage.

Blessed with a retentive memory, a thirst for knowledge, and an indomitable will and perseverance, how else could such a man impress those who knew him save with admiration and respect.

As a colleague of years standing has remarked, "He was a hard student, a good practitioner, a clean, honest man, and such a one as the profession can ill afford to lose. Would that there were more of them."

Free from any desire for position himself, it was only when fairly thrust upon him that he would accept such places.

One of the founders of the United States Veterinary Medical Association, he has ever shown the liveliest interest in its welfare until sickness and age prevented his attendance at its meetings. In 1869 the University of Vermont conferred on him the degree of M. D.

About ten years since he had a paralytic shock, from which he had never fully recovered, and yet since then he has done much work on both the State and National Commission, as well as in private practice.

He passed quietly away after an illness of about three weeks, evincing even to within a few days of his death much interest in a colleague's case.

In Dr. Thayer's death the profession has lost a member whose aim was ever upward and onward, not only for himself but for his profession, and his life is an example for the younger members of the profession to follow.

CORRESPONDENCE.

A VETERINARIAN WANTED.

LOWENBURG BUILDING, NORFOLK, VA.

SIR:—Can you refer me to a veterinary surgeon who desires a good location? To the right man I have a good opening.

W. D. PENDER.